

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-265191

(43)Date of publication of application : 26.09.2000

(51)Int.Cl.

C11D 1/10

B08B 3/08

C11D 1/94

(21)Application number : 11-073464

(71)Applicant : FANCL CORP

(22)Date of filing : 18.03.1999

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(54) WASHING AGENT COMPOSITION HAVING SELECTIVE WASHING FUNCTION

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a washing agent that has excellent selective washing function and safety without causing skin roughening and irritation by formulating a specific N-acylalanine salt in the composition.

SOLUTION: This washing agent comprises formulating

(A) a sodium N-lauroylalanate salt of the formula $[R \text{ is a } 8-22C \text{ (un)saturated hydrocarbon; M is an alkali metal or an organic amine salt}]$, for example, sodium N-lauroylalanate, preferably in an amount of 2-30 wt.%, more preferably (B) another anionic surfactant, for example, N-acylglutamate salt and/or (C) an amphoteric surfactant of the carbobetaine type. The formulation ratio by weight of component A to the total of component B and/or component C is 1/60-1/0, more preferably 1/1-1/0 calculated as the pure components, individually.

$R \text{ CONHCH(CH}_3\text{) COOM}$

LEGAL STATUS

[Date of request for examination] 10.11.1999

[Date of sending the examiner's decision of rejection] 09.04.2002

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection] 2002-08250

[Date of requesting appeal against examiner's decision of rejection] 09.05.2002

[Date of extinction of right]

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CLAIMS

[Claim(s)]

[Claim 1] The cleaning agent constituent which has the selection washing function characterized by blending N-acyl alanine salt shown by the general formula (1).

$\text{RCONHCH}(\text{CH}_3)\text{COOM} \dots (1)$

However, R of this type expresses the hydrocarbon group of the saturation of carbon numbers 8-22, or partial saturation. M expresses an alkali-metal salt and an organic amine salt.

[Claim 2] (A) The cleaning agent constituent which is characterized by blending combining the anionic surfactant of N-acyl alanine salt, and (B) and others, or the (C) amphoteric surface active agent and which has a selection washing function.

[Claim 3] (A) The cleaning agent constituent which has the selection washing function characterized by blending combining the anionic surfactant of N-acyl alanine salt, and (B) and others, and the (C) amphoteric surface active agent.

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the cleaning agent constituent which has the highly efficient nature and Takayasu all nature which come to blend the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others.

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PRIOR ART

[Description of the Prior Art] Conventionally, N-acyl alanine salt is excellent in detergency, and is known as a surfactant with high safety [for example, "functional cosmetics" (the CMC Co., Ltd. **, the 275th page, the 1990 issue, and JP,5-156281,A)].

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, it was not known about the selection washing function. A selection washing function shows the property which washes out well the dirt, the unnecessary keratin protein, and the sebaceous gland origin lipid on the skin, and cannot remove epidermal cell origin lipids, such as cholesterol required for the barrier ability of the skin, and ceramide, easily here. Moreover, in the conventional surface active agent, there was an example which may take out superfluously sebaceous gland origin lipids including required cholesterol and ceramide etc., may cause surface deterioration and a skin stimulus, and causes the problem on safety for the barrier ability of the skin.

[0004] Then, the purpose of this invention is to offer the cleaning agent constituent which secured the selection washing function of N-acyl alanine salt, and the high safety accompanying it.

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MEANS

[Means for Solving the Problem] This artificer completed a header and this invention for the safety accompanying a selection washing function and it being attained using N-acyl alanine salt for a cleaning agent constituent, or by using together the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and others to a cleaning agent constituent, as a result of repeating research wholeheartedly that the above-mentioned purpose should be attained.

[0006] That is, invention of claim 1 term was taken as the cleaning agent constituent which blends the (Component A) N-acyl alanine salt shown by the formula (1) and which has a selection washing function.

$\text{RCONHCH}(\text{CH}_3)\text{COO} \dots (1)$

However, R of this type expresses the hydrocarbon group of the saturation of carbon numbers 8-22, or partial saturation. M expresses an alkali-metal salt and an organic amine salt. Moreover, invention of claim 2 term was taken as the cleaning agent constituent which has the selection washing function blended combining the anionic surfactant of an above-mentioned (component A) N-acyl alanine salt, a component (B), and others, or a component (C) amphoteric surface active agent. Moreover, invention of claim 3 term was taken as the cleaning agent constituent which has the selection washing function blended combining the anionic surfactant of an above-mentioned (component A) N-acyl alanine salt, a component (B), and others, and a component (C) amphoteric surface active agent.

[0007]

[The example of a gestalt of implementation of invention] Hereafter, this invention is explained to a detail. In N-acyl alanine salt of the component (A) shown in the above-mentioned formula (1) used into the cleaning agent constituent of this invention A long-chain acyl group expresses the acyl group guided from the saturation or the unsaturated fatty acid of the carbon atomic numbers 8-22. For example, a lauric acid, a myristic acid, a palmitic acid, stearin acid, You may be an acyl group by the fatty acid obtained by the mixed fatty acid or composition which the acyl group by the fatty acid of a single presentation of oleic acid etc. is mentioned, in addition is obtained from nature, such as palm oil fatty acid, a palm oil fatty acid, and a beef tallow fatty acid. as an example -- N-lauroyl alanine, N-myristoyl alanine, N-PAL MITOIRU alanine, N-stearoyl alanine, N-cocoyl alanine, and N- me -- an oil alanine etc. is mentioned. As for the salt expressed with a formula (1) as M, organic amine salts, such as alkali-metal salts, such as sodium salt and potassium salt, a monoethanolamine salt, a diethanolamine salt, a triethanolamine salt, L-lysine salt, and L-arginine salt, are mentioned. These base component may combine two or more sorts.

[0008] In the anionic surface active agent of others of the component (B) used into the cleaning agent constituent of this invention, N-acyl glutamate, a sodium N-acyl methyl taurate salt, N-acyl isethionic acid salt, N-acyl glycine salt, monoalkyl phosphate, ether carboxylate, an alkyl sulfonate, sulfo succinate, a higher-fatty-acid salt, etc. are mentioned. As for the salt of this component (B), organic amine salts, such as alkali-metal salts, such as sodium salt and potassium salt, a monoethanolamine salt, a diethanolamine salt, a triethanolamine salt, L-lysine salt, and L-arginine salt, are mentioned. These

base component may combine two or more sorts.

[0009] In the amphoteric surface active agent of a component (C), a carbobetaine mold, a sulfobetaine mold, an amide betaine mold, an imidazoline mold, etc. are mentioned.

[0010] About a component (A), it can be used independently. If a component (A) is used together about a component (B) and a component (C), it is also possible to use two or more sorts together.

[0011] Furthermore, in the weight ratio of pure part conversion, 1:60-1:0 are suitable for the blending ratio of coal of the sum total of the component (A) used for a cleaning agent constituent, a component (B), and/or a component (C), and it is 1:1-1:0 more preferably. To a component (A), when [of 1:60-1:0] out of range, the detergency of a component (B) and/or a component (C) becomes [the ratio of the sum total of a component (B) and/or a component (C)] high, and a selection washing function and high safety cannot be attained.

[0012] As for the amount of pure part conversions in combination of the component (A) used for the cleaning agent constituent of this invention, 0.3 or more are desirable, and it is 1.5 - 30% more preferably. Moreover, 2% or more of the total quantity of pure part conversion of a component (A), (B), and (C) is desirable, and it is 2 - 30% more preferably.

[0013] As a component of others which are used for the cleaning agent constituent of this invention, thickeners, such as oils, such as the Nonion nature surface active agents, such as saccharides, such as polyhydric alcohol, such as a glycerol, diglycerol, 1, 3-butylene glycol, and a polyethylene glycol, a sorbitol, xylitol, and maltitol, a palm-oil-fatty-acid alkanol amide, sucrose fatty acid ester, and alkyl glucoside, olive oil, jojoba oil, squalane, and 2-ethylhexanoic acid cetyl, and hydroxyethyl cellulose, a natural extract, an anti-inflammatory agent, perfume, antiseptics, etc. can be mentioned.

[0014] Moreover, the pharmaceutical form of the cleaning agent constituent of this invention is not limited to this, although the shape of the shape of powder, a liquid, and a cream and a solid etc. is mentioned.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the cleaning agent constituent which has the highly efficient nature and Takayasu all nature which come to blend the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others.

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[0014] Moreover, the pharmaceutical form of the cleaning agent constituent of this invention is not limited to this, although the shape of the shape of powder, a liquid, and a cream and a solid etc. is mentioned.

[0015]

[Example] Hereafter, this invention is described based on an example and the example of a comparison. In addition, the loadings in an example and the example of a comparison are expressed with weight % of pure part conversion. Moreover, the detergency test and selection washing sex test which were used for

this invention, and a safety test were carried out as follows.

[0016] The elution nature of the squalene from the epidermis of the example of a comparison and an example and cholesterol was evaluated by making eight [detergency-test] man and woman into a test subject. The rate of sebum elution at the time of the cleaning agent processing to the amount of sebum extracted with the acetone ether solvent at the time of tap water processing was computed, and the following criteria estimated the sum total of the rate of elution of squalene and cholesterol as a detergency. When the sum total of the rate of elution of squalene and cholesterol was 30% or more, there is sufficient detergency and it was estimated that it was possible to flush excessive sebum. On the other hand, less than 20% estimated that it could not fully flush sebum.

[0017] Sum total [of the rate of squalene elution, and the rate of cholesterol elution] O: More than 30% **: Less than [30% 20% or more] x: Less than 20% [0018] Elution nature of the squalene from the epidermis of the example of a comparison and an example and cholesterol was examined by making eight [selection washing sex-test] man and woman into a test subject. The rate of elution of the squalene and cholesterol at the time of the cleaning agent processing to the amount of sebum extracted with the acetone ether solvent at the time of tap water processing was computed, and the following criteria estimated selection detergency from the numeric value of the rate of squalene elution / rate of cholesterol elution (it omits Following R). A difference is in the rate of elution of squalene and cholesterol, and $R \geq 5$ estimated that there was selection detergency. On the other hand, sufficient difference for the rate of elution of squalene and cholesterol was not accepted, but $R < 2$ estimated that it did not have selection detergency.

[0019]

O : $R \geq 5$ **: Two $\leq R < 5$ x: $R < 2$ [0020] The charge of washing of the example of this invention and the example of a comparison was made to use continuously one week (a morning and evening) of his dice by having made 30 [safety test] man and woman into the test subject, and surface deterioration was evaluated. The number which appealed against surface deterioration showed the test result.

[0021] the charge of washing given in the examples 1-9 of a comparison and the [examples 1-22] table 1, and Table 2 -- respectively -- a law -- it prepares according to a method, said many trials are carried out, and a test result is indicated to Table 1 and 2.

[0022]

[Table 1]

如 方	比較例1 比較例2 比較例3 比較例4 比較例5 比較例6 比較例7 比較例8 比較例9									
	原料名	比較例1	比較例2	比較例3	比較例4	比較例5	比較例6	比較例7	比較例8	比較例9
方	N-アシルアミン(9)-カ7シ									
	N-アシルグルタミン酸ナトリウム	10	30					0.5	5	
	N-アシルグルタミン酸ナトリウム			10	30			0.5		7.5
	アクリル酸7-メチルヘプタイン					10	30		5	7.5
方	グリセリン	5	5	5	5	5	5	5	5	5
	精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余
	洗淨力	○	○	○	○	○	○	△	○	○
	通気洗淨性	x	x	x	x	x	x	x	x	x
果	安全性	0	2	0	3	0	2	0	0	0

[0023]

[Table 2]

原料名	実施例1	実施例2	実施例3	実施例4	実施例5	実施例6	実施例7	実施例8	実施例9	実施例10	実施例11	実施例12
N-アシルアミン/エチル-67シ	0.3	1.5	10	30	1	1	1	1	1	1	10	10
N-アシルアミン/エチル-67シ					1				0.5	0.5	10	
N-アシルアミン/エチル-67シ						1			0.5	0.5		10
アクリル酸/エチル-67シ							1		0.5	0.5		
アクリル酸	5	5	5	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗淨力	△	○	○	○	○	○	○	○	○	○	○	○
選択洗淨性	○	○	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○	○	○

原料名	実施例13	実施例14	実施例15	実施例16	実施例17	実施例18	実施例19	実施例20	実施例21	実施例22
N-アシルアミン/エチル-67シ	10	10	10	10	15	15	15	15	15	15
N-アシルアミン/エチル-67シ		5	5		15			7.5	7.5	15
N-アシルアミン/エチル-67シ		5		5		15		7.5	7.5	7.5
アクリル酸/エチル-67シ	10		5	5			15		7.5	7.5
アクリル酸	5	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗淨力	○	○	○	○	○	○	○	○	○	○
選択洗淨性	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○

[0024] In the cleaning agent constituent which is shown in the examples 1-6 of a comparison and which carried out surfactant independent combination, although the detergency was shown, selection detergency was not accepted but surface deterioration was accepted especially about the examples 2, 4, and 6 of a comparison. Furthermore, selection detergency was not accepted in the cleaning agent constituent which is shown in the examples 7-9 of a comparison and which combined surfactants other than N-acyl alanine salt. On the other hand, in examples 1-4, even if it blended N-acyl alanine salt independently, a detergency and selection detergency were accepted and surface deterioration was not accepted. Furthermore, a detergency and selection detergency were similarly accepted with the cleaning agent constituent combined with the anionic surfactant of N-acyl alanine salt and others and/or amphoteric surface active agent which are shown in examples 5-22, and surface deterioration was not accepted.

[0025] From the above result, it was shown in the cleaning agent constituent which blends N-acyl alanine salt that the header and the cleaning agent constituent which blended the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others further have secured the safety accompanying a selection washing function and it for there being a selection washing function similarly.

[0026]

[Effect of the Invention] Supply of the product which secured the safety accompanying a header, the selection washing function which comes to blend the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others further, and it for a selection washing function being in the cleaning agent constituent which blends N-acyl alanine salt of this invention was attained.

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EXAMPLE

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[0017] Sum total [of the rate of squalene elution, and the rate of cholesterol elution] O: More than 30% **: Less than [30% 20% or more] x: Less than 20% [0018] Elution nature of the squalene from the epidermis of the example of a comparison and an example and cholesterol was examined by making eight [selection washing sex-test] man and woman into a test subject. The rate of elution of the squalene and cholesterol at the time of the cleaning agent processing to the amount of sebum extracted with the acetone ether solvent at the time of tap water processing was computed, and the following criteria estimated selection detergency from the numeric value of the rate of squalene elution / rate of cholesterol elution (it omits Following R). A difference is in the rate of elution of squalene and cholesterol, and $R \geq 5$ estimated that there was selection detergency. On the other hand, sufficient difference for the rate of elution of squalene and cholesterol was not accepted, but $R < 2$ estimated that it did not have selection detergency.

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[0022]

[Table 1]

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N-アシルグルタミン酸ナトリウム	10	30					0.5	5	
N-アシルグルタミン酸ナトリウム			10	30			0.5		7.5
アクリル酸アミド-β-アミド					10	30			7.5
グリセリン	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗淨力	Q	Q	Q	Q	Q	Q	Δ	Q	Q
濁り発現性	x	x	x	x	x	x	x	x	x
安全性	0	2	0	3	0	2	0	0	0

[0023]
[Table 2]

原料名	実施例1	実施例2	実施例3	実施例4	実施例5	実施例6	実施例7	実施例8	実施例9	実施例10	実施例11	実施例12
N-アシルアミノ酸/エステル	0.3	1.5	10	30	1	1	1	1	1	1	10	10
N-アシルアミノ酸/エステル					1			0.5	0.5		10	
N-アシルアミノ酸/エステル						1		0.5		0.5		10
アミノ酸/エステル							1		0.5	0.5		
グリセリン	5	5	5	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗浄力	△	○	○	○	○	○	○	○	○	○	○	○
選択性	○	○	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○	○	○

原料名	実施例13	実施例14	実施例15	実施例16	実施例17	実施例18	実施例19	実施例20	実施例21	実施例22
N-アシルアミノ酸/エステル	10	10	10	10	15	15	15	15	15	15
N-アシルアミノ酸/エステル		5	5		15			7.5	7.5	
N-アシルアミノ酸/エステル		5		5		15		7.5		7.5
アミノ酸/エステル	10		5	5			15		7.5	7.5
グリセリン	5	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗浄力	○	○	○	○	○	○	○	○	○	○
選択性	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○

[0024] In the cleaning agent constituent which is shown in the examples 1-6 of a comparison and which carried out surfactant independent combination, although the detergency was shown, selection detergency was not accepted but surface deterioration was accepted especially about the examples 2, 4, and 6 of a comparison. Furthermore, selection detergency was not accepted in the cleaning agent constituent which is shown in the examples 7-9 of a comparison and which combined surfactants other than N-acyl alanine salt. On the other hand, in examples 1-4, even if it blended N-acyl alanine salt independently, a detergency and selection detergency were accepted and surface deterioration was not accepted. Furthermore, a detergency and selection detergency were similarly accepted with the cleaning agent constituent combined with the anionic surfactant of N-acyl alanine salt and others and/or amphoteric surface active agent which are shown in examples 5-22, and surface deterioration was not accepted.

[0025] From the above result, it was shown in the cleaning agent constituent which blends N-acyl alanine salt that the header and the cleaning agent constituent which blended the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others further have secured the safety accompanying a selection washing function and it for there being a selection washing function similarly.

[Translation done.]

*** NOTICES ***

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

EFFECT OF THE INVENTION

[Effect of the Invention] Supply of the product which secured the safety accompanying a header, the selection washing function which comes to blend the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others further, and it for a selection washing function being in the cleaning agent constituent which blends N-acyl alanine salt of this invention was attained.

[Translation done.]

(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開2000-265191

(P2000-265191A)

(43) 公開日 平成12年9月26日 (2000.9.26)

(51) Int. Cl.	識別記号	F I	チート (参考)	
C 1 1 D	1/10	C 1 1 D	1/10	3 B 2 0 1
B 0 8 B	3/08	B 0 8 B	3/08	Z 4 H 0 0 3
C 1 1 D	1/94	C 1 1 D	1/94	

審査請求 有 請求項の数 3 O L (全 6 頁)

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(54) 【発明の名称】 選択洗浄機能を有する洗浄剤組成物

(57) 【要約】

【課題】 選択洗浄機能、及びそれに伴う高い安全性を確保した洗浄剤組成物を提供する。

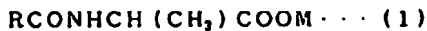
【解決手段】 一般式 (1) で示される N-アシルアラニン塩を配合する選択洗浄機能を有する洗浄剤組成物。

$RCONHCH(CH_3)COOM \cdots (1)$

但し、本式の R は炭素数 8 から 22 の飽和または不飽和の炭化水素基を表す。M はアルカリ金属塩、有機アミン塩を表す。また、上記 N-アシルアラニン塩とその他のアニオン性界面活性剤及び／又は両性界面活性剤を併用する場合もある。

【特許請求の範囲】

【請求項1】 一般式(1)で示されるN-アシルアラニン塩を配合することを特徴とする選択洗浄機能を有する洗浄剤組成物。



但し、本式のRは炭素数8から22の飽和または不飽和の炭化水素基を表す。Mはアルカリ金属塩、有機アミン塩を表す。

【請求項2】 (A) N-アシルアラニン塩と(B)その他のアニオン性界面活性剤又は(C)両性界面活性剤とを組み合わせることを特徴とする、選択洗浄機能を有する洗浄剤組成物。

【請求項3】 (A) N-アシルアラニン塩と(B)その他のアニオン性界面活性剤、及び(C)両性界面活性剤とを組み合わせることを特徴とする選択洗浄機能を有する洗浄剤組成物。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】この発明は、N-アシルアラニン塩及びN-アシルアラニン塩とその他のアニオン性界面活性剤及び/又は両性界面活性剤とを配合してなる高機能性かつ高安全性を有する洗浄剤組成物に関する。

【0002】

【従来の技術】従来、N-アシルアラニン塩は洗浄性に優れ、安全性が高い界面活性剤として知られている〔例えば、「機能性化粧品」(シー・エム・シー社刊、第275頁、1990年発行、及び特開平5-156281号公報)〕。

【0003】

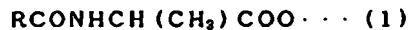
【発明が解決しようとする課題】しかし、その選択洗浄機能については知られていなかった。ここで選択洗浄機能とは皮膚上の汚れ、不要な角質タンパク質及び皮脂腺由来脂質を良く洗い落とし、かつ皮膚のバリア機能にとって必要なコレステロール、セラミドなどの表皮細胞由来脂質を取り除きにくい性質を示す。また、従来の界面活性剤では皮膚のバリア機能にとって必要なコレステロール、セラミドを始めとする皮脂腺由来脂質等を過剰に出し、肌荒れや皮膚刺激を引き起こすことがあり、安全性上の問題を起こす例があった。

【0004】そこでこの発明の目的は、N-アシルアラニン塩の選択洗浄機能及び、それに伴う高い安全性を確保した洗浄剤組成物を提供することにある。

【0005】

【課題を解決するための手段】この発明者は、上記目的を達成すべく鋭意研究を重ねた結果、N-アシルアラニン塩を洗浄剤組成物に使用することにより、または、N-アシルアラニン塩とその他のアニオン性界面活性剤及び/又は両性界面活性剤を洗浄剤組成物に併用することにより、選択洗浄機能およびそれに伴う安全性が達成されることを見出し、この発明を完成させた。

【0006】即ち、請求項1項の発明は、式(1)で示される成分(A) N-アシルアラニン塩を配合する、選択洗浄機能を有する洗浄剤組成物とした。



但し、本式のRは炭素数8から22の飽和または不飽和の炭化水素基を表す。Mはアルカリ金属塩、有機アミン塩を表す。また、請求項2項の発明は、上記成分(A) N-アシルアラニン塩と成分(B) その他のアニオン性界面活性剤又は成分(C) 両性界面活性剤とを組み合わせることを特徴とする選択洗浄機能を有する洗浄剤組成物とした。また、請求項3項の発明は、上記成分(A) N-アシルアラニン塩と成分(B) その他のアニオン性界面活性剤、及び成分(C) 両性界面活性剤とを組み合わせることを特徴とする選択洗浄機能を有する洗浄剤組成物とした。

【0007】

【発明の実施の形態例】以下、この発明を詳細に説明する。この発明の洗浄剤組成物中に使用される上記式

(1)に示される成分(A)のN-アシルアラニン塩において、長鎖アシル基は炭素原子数8〜22の飽和または不飽和脂肪酸より誘導されるアシル基を表し、例えば、ラウリン酸、ミリスチン酸、パルミチン酸、ステアリン酸、オレイン酸等の単一組成の脂肪酸によるアシル基が挙げられ、この他にヤシ油脂肪酸、パーム油脂肪酸、牛脂脂肪酸等の天然より得られる混合脂肪酸あるいは合成により得られる脂肪酸によるアシル基であっても良い。具体例として、N-ラウロイルアラニン、N-ミリスチロイルアラニン、N-パルミトイルアラニン、N-ステアロイルアラニン、N-ココイルアラニン、N-オレオイルアラニン等が挙げられる。式(1)でMとして表す塩は、ナトリウム塩、カリウム塩等のアルカリ金属塩、モノエタノールアミン塩、ジエタノールアミン塩、トリエタノールアミン塩、L-リジン塩、L-アルギニン塩等の有機アミン塩が挙げられる。これら塩基成分は二種以上を組み合わせても良い。

【0008】この発明の洗浄剤組成物中に使用される成分(B)のその他のアニオン性界面活性剤において、N-アシルグルタミン酸塩、N-アシルメチルタウリン塩、N-アシルイセチオン酸塩、N-アシルグリシン塩、モノアルキルリン酸塩、エーテルカルボン酸塩、アルキルスルホン酸塩、スルホコハク酸塩、高級脂肪酸塩等が挙げられる。本成分(B)の塩は、ナトリウム塩、カリウム塩等のアルカリ金属塩、モノエタノールアミン塩、ジエタノールアミン塩、トリエタノールアミン塩、L-リジン塩、L-アルギニン塩等の有機アミン塩が挙げられる。これら塩基成分は二種以上を組み合わせても良い。

【0009】成分(C)の両性界面活性剤においては、カルボベタイン型、スルホベタイン型、アミドベタイン型、イミダゾリン型等が挙げられる。

【0010】成分(A)については単独で使用するこ

ができる。成分(B)や成分(C)については成分(A)を併用すれば、2種以上併用することも可能である。

【0011】更に洗淨剤組成物に使用される成分(A)と成分(B)及び/又は成分(C)の合計の配合割合は、純分換算の重量比で1:60~1:0が好適であり、より好ましくは1:1~1:0である。成分(A)に対し、成分(B)及び/又は成分(C)の合計の比率が1:60~1:0の範囲外である場合、成分(B)及び/又は成分(C)の洗淨性が高くなり、選択洗淨機能と高い安全性が達成できない。

【0012】この発明の洗淨剤組成物に使用される成分(A)のみの配合における純分換算量は0.3以上が好ましく、より好ましくは1.5~30%である。また、成分(A)、(B)、(C)の純分換算の合計量は2%以上が好ましく、より好ましくは2~30%である。

【0013】この発明の洗淨剤組成物に使用されるその他の成分として、グリセリン、ジグリセリン、1,3-ブチレングリコール、ポリエチレングリコール等の多価アルコール、ソルビトール、キシリトール、マルチトール等の糖類、ヤシ油脂肪酸アルカノールアミド、ショ糖脂肪酸エステル、アルキルグルコシド等のノニオン性界面活性剤、オリブ油、ホホバ油、スクワラン、2-エチルヘキサン酸セチルなどの油剤、ヒドロキシエチルセルロース等の増粘剤、天然抽出物、抗炎症剤、香料、防腐剤などを挙げることができる。

【0014】またこの発明の洗淨剤組成物の剤型は、粉末状、液状、クリーム状、固形状等が挙げられるが、これに限定するものではない。

【0015】

【実施例】以下、実施例及び比較例に基づいてこの発明を記述する。尚、実施例及び比較例における配合量は純分換算の重量%で表す。また、この発明に使用した、洗淨力試験、選択洗淨性試験、安全性試験は以下の通りに実施した。

【0016】【洗淨力試験】男女8名を被験者として比較例、実施例の表皮からのスクワレン及びコレステロールの溶出性を評価した。水道水処理時のアセトン・エーテル溶媒により抽出された皮脂量に対する洗淨剤処理時の皮脂溶出率を算出し、スクワレンとコレステロールの溶出率の合計を以下の基準で洗淨力として評価した。スクワレンとコレステロールの溶出率の合計が30%以上の場合、十分な洗淨力があり、余分な皮脂を洗い流すことが可能であると評価した。一方、20%未満では皮脂は十分に洗い流すことができないと評価した。

【0017】スクワレン溶出率とコレステロール溶出率の合計

○: 30%以上

△: 20%以上30%未満

×: 20%未満

【0018】【選択洗淨性試験】男女8名を被験者として比較例、実施例の表皮からのスクワレン及びコレステロールの溶出性の検討を行なった。水道水処理時のアセトン・エーテル溶媒により抽出された皮脂量に対する洗淨剤処理時のスクワレンとコレステロールの溶出率を算出し、スクワレン溶出率/コレステロール溶出率(以下Rと略す)の数値から以下の基準で選択洗淨性を評価した。R \geq 5ではスクワレンとコレステロールの溶出率に差があり、選択洗淨性があると評価した。一方、R<2ではスクワレンとコレステロールの溶出率に充分な差が認められず、選択洗淨性を持たないと評価した。

【0019】

○: R \geq 5

△: 2 \leq R<5

×: R<2

【0020】【安全性試験】男女30名を被験者としてこの発明の実施例及び比較例の洗淨料を1日2回(朝夕)1週間連用させて、肌荒れを評価した。試験結果は肌荒れを訴えた人数で示した。

【0021】【比較例1~9及び実施例1~22】表1、表2に記載の洗淨料をそれぞれ定法に従って調製し、前記諸試験を実施し、試験結果を表1、及び表2に記載する。

【0022】

【表1】

:(4) 000-265191 (P2000-265191A)

[0023]

[表2]

品名	比較例1	比較例2	比較例3	比較例4	比較例5	比較例6	比較例7	比較例8	比較例9
如									
N-アシルアミノ酸誘導体									
N-アシルアミノ酸誘導体	10	30				0.5		5	
N-アシルアミノ酸誘導体			10	30		0.5			7.5
方									
アミノ酸誘導体	5	5	5	5	10	5	5	5	5
アミノ酸	現余	現余	現余	現余	現余	現余	現余	現余	現余
精製水	0	0	0	0	0	0	0	0	0
洗淨力	○	○	○	○	○	○	○	○	○
選択性	×	×	×	×	×	×	×	×	×
安全性	0	2	0	3	0	0	0	0	0

原料名	実施例1	実施例2	実施例3	実施例4	実施例5	実施例6	実施例7	実施例8	実施例9	実施例10	実施例11	実施例12
N-アシルアラニン塩化ナトリウム	0.3	1.5	10	30	1	1	1	1	1	1	10	10
N-アシルアラニン塩化ナトリウム					1	1		0.5	0.5		10	
N-アシルアラニン塩化ナトリウム								0.5		0.5		10
ナトリウム	5	5	5	5	5	5	5	5	5	5	5	5
洗淨力	△	○	○	○	○	○	○	○	○	○	○	○
選択洗淨性	○	○	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○	○	○

【0024】比較例1～6に示す、界面活性剤単独配合した洗淨剤組成物においては、洗淨力は示されるが、選択洗淨性は認められず、特に、比較例2、4、6については、肌荒れが認められた。さらに、比較例7～9に示

原料名	実施例13	実施例14	実施例15	実施例16	実施例17	実施例18	実施例19	実施例20	実施例21	実施例22
N-アシルアラニン塩化ナトリウム	10	10	10	10	15	15	15	15	15	15
N-アシルアラニン塩化ナトリウム		5	5		15			7.5	7.5	
N-アシルアラニン塩化ナトリウム		5	5	5		15		7.5		7.5
ナトリウム	10	5	5	5	5	5	5	5	5	5
洗淨力	○	○	○	○	○	○	○	○	○	○
選択洗淨性	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○

す、N-アシルアラニン塩以外の界面活性剤を組み合わせた洗淨剤組成物においても選択洗淨性が認められなかった。一方、実施例1～4においては、N-アシルアラニン塩を単独で配合しても、洗淨力、及び選択洗淨性が

認められ、肌荒れは認められなかった。さらに、実施例 5～22に示す、N-アシルアラニン塩とその他のアニオン性界面活性剤及び／又は両性界面活性剤と組み合わせた洗浄剤組成物でも同様に洗浄力及び選択洗浄性が認められ、肌荒れは認められなかった。

【0025】以上の結果より、N-アシルアラニン塩を配合する洗浄剤組成物に選択洗浄機能があることを見出し、更にN-アシルアラニン塩及びN-アシルアラニン塩とその他のアニオン性界面活性剤及び／又は両性界面

活性剤を配合した洗浄剤組成物も同様に、選択洗浄機能及びそれに伴う安全性を確保していることが示された。

【0026】

【発明の効果】この発明はN-アシルアラニン塩を配合する洗浄剤組成物に選択洗浄機能があることを見出し、更にN-アシルアラニン塩及びN-アシルアラニン塩とその他のアニオン性界面活性剤及び／又は両性界面活性剤を配合してなる、選択洗浄機能及びそれに伴う安全性を確保した製品を供給可能となった。

フロントページの続き

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Fターム(参考) 38201 AA46 BB92 BB94 CC21
4H003 AB09 AB10 AB23 AB46 AD04
BA01 BA12 BA15 DA02 EB05
ED02 FA02

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-265191

(43)Date of publication of application : 26.09.2000

(51)Int.Cl.

C11D 1/10

B08B 3/08

C11D 1/94

(21)Application number : 11-073464

(71)Applicant : FANCL CORP

(22)Date of filing : 18.03.1999

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(54) WASHING AGENT COMPOSITION HAVING SELECTIVE WASHING FUNCTION

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a washing agent that has excellent selective washing function and safety without causing skin roughening and irritation by formulating a specific N-acylalanine salt in the composition.

SOLUTION: This washing agent comprises formulating

(A) a sodium N-lauroylalanate salt of the formula $[R \text{ is a } C_{8-22} \text{ (un)saturated hydrocarbon; M is an alkali metal or an organic amine salt}]$, for example, sodium N-lauroylalanate, preferably in an amount of 2-30 wt.%, more preferably (B) another anionic surfactant, for example, N-acylglutamate salt and/or (C) an amphoteric surfactant of the carbobetaine type. The formulation ratio by weight of component A to the total of component B and/or component C is 1/60-1/0, more preferably 1/1-1/0 calculated as the pure components, individually.

LEGAL STATUS

[Date of request for examination] 10.11.1999

[Date of sending the examiner's decision of rejection] 09.04.2002

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection] 2002-08250

[Date of requesting appeal against examiner's decision of rejection] 09.05.2002

[Date of extinction of right]

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CLAIMS

[Claim(s)]

[Claim 1] The cleaning agent constituent which has the selection washing function characterized by blending N-acyl alanine salt shown by the general formula (1).

RCONHCH(CH₃) COOM ... (1)

However, R of this type expresses the hydrocarbon group of the saturation of carbon numbers 8-22, or partial saturation. M expresses an alkali-metal salt and an organic amine salt.

[Claim 2] (A) The cleaning agent constituent which is characterized by blending combining the anionic surfactant of N-acyl alanine salt, and (B) and others, or the (C) amphoteric surface active agent and which has a selection washing function.

[Claim 3] (A) The cleaning agent constituent which has the selection washing function characterized by blending combining the anionic surfactant of N-acyl alanine salt, and (B) and others, and the (C) amphoteric surface active agent.

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the cleaning agent constituent which has the highly efficient nature and Takayasu all nature which come to blend the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others.

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PRIOR ART

[Description of the Prior Art] Conventionally, N-acyl alanine salt is excellent in detergency, and is known as a surfactant with high safety [for example, "functional cosmetics" (the CMC Co., Ltd. **, the 275th page, the 1990 issue, and JP,5-156281,A)].

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, it was not known about the selection washing function. A selection washing function shows the property which washes out well the dirt, the unnecessary keratin protein, and the sebaceous gland origin lipid on the skin, and cannot remove epidermal cell origin lipids, such as cholesterol required for the barrier ability of the skin, and ceramide, easily here. Moreover, in the conventional surface active agent, there was an example which may take out superfluously sebaceous gland origin lipids including required cholesterol and ceramide etc., may cause surface deterioration and a skin stimulus, and causes the problem on safety for the barrier ability of the skin.

[0004] Then, the purpose of this invention is to offer the cleaning agent constituent which secured the selection washing function of N-acyl alanine salt, and the high safety accompanying it.

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MEANS

[Means for Solving the Problem] This artifice completed a header and this invention for the safety accompanying a selection washing function and it being attained using N-acyl alanine salt for a cleaning agent constituent, or by using together the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and others to a cleaning agent constituent, as a result of repeating research wholeheartedly that the above-mentioned purpose should be attained.

[0006] That is, invention of claim 1 term was taken as the cleaning agent constituent which blends the (Component A) N-acyl alanine salt shown by the formula (1) and which has a selection washing function.

$\text{RCONHCH}(\text{CH}_3)\text{COO} \dots (1)$

However, R of this type expresses the hydrocarbon group of the saturation of carbon numbers 8-22, or partial saturation. M expresses an alkali-metal salt and an organic amine salt. Moreover, invention of claim 2 term was taken as the cleaning agent constituent which has the selection washing function blended combining the anionic surfactant of an above-mentioned (component A) N-acyl alanine salt, a component (B), and others, or a component (C) amphoteric surface active agent. Moreover, invention of claim 3 term was taken as the cleaning agent constituent which has the selection washing function blended combining the anionic surfactant of an above-mentioned (component A) N-acyl alanine salt, a component (B), and others, and a component (C) amphoteric surface active agent.

[0007]

[The example of a gestalt of implementation of invention] Hereafter, this invention is explained to a detail. In N-acyl alanine salt of the component (A) shown in the above-mentioned formula (1) used into the cleaning agent constituent of this invention A long-chain acyl group expresses the acyl group guided from the saturation or the unsaturated fatty acid of the carbon atomic numbers 8-22. For example, a lauric acid, a myristic acid, a palmitic acid, stearin acid, You may be an acyl group by the fatty acid obtained by the mixed fatty acid or composition which the acyl group by the fatty acid of a single presentation of oleic acid etc. is mentioned, in addition is obtained from nature, such as palm oil fatty acid, a palm oil fatty acid, and a beef tallow fatty acid. as an example -- N-lauroyl alanine, N-myristoyl alanine, N-PAL MITOIRU alanine, N-stearoyl alanine, N-cocoyl alanine, and N- me -- an oil alanine etc. is mentioned. As for the salt expressed with a formula (1) as M, organic amine salts, such as alkali-metal salts, such as sodium salt and potassium salt, a monoethanolamine salt, a diethanolamine salt, a triethanolamine salt, L-lysine salt, and L-arginine salt, are mentioned. These base component may combine two or more sorts.

[0008] In the anionic surface active agent of others of the component (B) used into the cleaning agent constituent of this invention, N-acyl glutamate, a sodium N-acyl methyl taurate salt, N-acyl isethionic acid salt, N-acyl glycine salt, monoalkyl phosphate, ether carboxylate, an alkyl sulfonate, sulfo succinate, a higher-fatty-acid salt, etc. are mentioned. As for the salt of this component (B), organic amine salts, such as alkali-metal salts, such as sodium salt and potassium salt, a monoethanolamine salt, a diethanolamine salt, a triethanolamine salt, L-lysine salt, and L-arginine salt, are mentioned. These

base component may combine two or more sorts.

[0009] In the amphoteric surface active agent of a component (C), a carbobetaine mold, a sulfobetaine mold, an amide betaine mold, an imidazoline mold, etc. are mentioned.

[0010] About a component (A), it can be used independently. If a component (A) is used together about a component (B) and a component (C), it is also possible to use two or more sorts together.

[0011] Furthermore, in the weight ratio of pure part conversion, 1:60-1:0 are suitable for the blending ratio of coal of the sum total of the component (A) used for a cleaning agent constituent, a component (B), and/or a component (C), and it is 1:1-1:0 more preferably. To a component (A), when [of 1:60-1:0] out of range, the detergency of a component (B) and/or a component (C) becomes [the ratio of the sum total of a component (B) and/or a component (C)] high, and a selection washing function and high safety cannot be attained.

[0012] As for the amount of pure part conversions in combination of the component (A) used for the cleaning agent constituent of this invention, 0.3 or more are desirable, and it is 1.5 - 30% more preferably. Moreover, 2% or more of the total quantity of pure part conversion of a component (A), (B), and (C) is desirable, and it is 2 - 30% more preferably.

[0013] As a component of others which are used for the cleaning agent constituent of this invention, thickeners, such as oils, such as the Nonion nature surface active agents, such as saccharides, such as polyhydric alcohol, such as a glycerol, diglycerol, 1, 3-butylene glycol, and a polyethylene glycol, a sorbitol, xylitol, and maltitol, a palm-oil-fatty-acid alkanol amide, sucrose fatty acid ester, and alkyl glucoside, olive oil, jojoba oil, squalane, and 2-ethylhexanoic acid cetyl, and hydroxyethyl cellulose, a natural extract, an anti-inflammatory agent, perfume, antiseptics, etc. can be mentioned.

[0014] Moreover, the pharmaceutical form of the cleaning agent constituent of this invention is not limited to this, although the shape of the shape of powder, a liquid, and a cream and a solid etc. is mentioned.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the cleaning agent constituent which has the highly efficient nature and Takayasu all nature which come to blend the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others.

[0002]

[Description of the Prior Art] Conventionally, N-acyl alanine salt is excellent in detergency, and is known as a surfactant with high safety [for example, "functional cosmetics" (the CMC Co., Ltd. **, the 275th page, the 1990 issue, and JP,5-156281,A)].

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[0005]

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[0007]

[The example of a gestalt of implementation of invention] Hereafter, this invention is explained to a detail. In N-acyl alanine salt of the component (A) shown in the above-mentioned formula (1) used into the cleaning agent constituent of this invention A long-chain acyl group expresses the acyl group guided from the saturation or the unsaturated fatty acid of the carbon atomic numbers 8-22. For example, a lauric acid, a myristic acid, a palmitic acid, stearin acid, You may be an acyl group by the fatty acid obtained by the mixed fatty acid or composition which the acyl group by the fatty acid of a single presentation of oleic acid etc. is mentioned, in addition is obtained from nature, such as palm oil fatty acid, a palm oil fatty acid, and a beef tallow fatty acid. as an example -- N-lauroyl alanine, N-myristoyl alanine, N-PAL MITOIRU alanine, N-stearoyl alanine, N-cocoyl alanine, and N- me -- an oil alanine etc. is mentioned. As for the salt expressed with a formula (1) as M, organic amine salts, such as alkali-metal salts, such as sodium salt and potassium salt, a monoethanolamine salt, a diethanolamine salt, a triethanolamine salt, L-lysine salt, and L-arginine salt, are mentioned. These base component may combine two or more sorts.

[0008] In the anionic surface active agent of others of the component (B) used into the cleaning agent constituent of this invention, N-acyl glutamate, a sodium N-acyl methyl taurate salt, N-acyl isethionic acid salt, N-acyl glycine salt, monoalkyl phosphate, ether carboxylate, an alkyl sulfonate, sulfo succinate, a higher-fatty-acid salt, etc. are mentioned. As for the salt of this component (B), organic amine salts, such as alkali-metal salts, such as sodium salt and potassium salt, a monoethanolamine salt, a diethanolamine salt, a triethanolamine salt, L-lysine salt, and L-arginine salt, are mentioned. These base component may combine two or more sorts.

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[0010] About a component (A), it can be used independently. If a component (A) is used together about a component (B) and a component (C), it is also possible to use two or more sorts together.

[0011] Furthermore, in the weight ratio of pure part conversion, 1:60-1:0 are suitable for the blending ratio of coal of the sum total of the component (A) used for a cleaning agent constituent, a component (B), and/or a component (C), and it is 1:1-1:0 more preferably. To a component (A), when [of 1:60-1:0] out of range, the detergency of a component (B) and/or a component (C) becomes [the ratio of the sum total of a component (B) and/or a component (C)] high, and a selection washing function and high safety cannot be attained.

[0012] As for the amount of pure part conversions in combination of the component (A) used for the cleaning agent constituent of this invention, 0.3 or more are desirable, and it is 1.5 - 30% more preferably. Moreover, 2% or more of the total quantity of pure part conversion of a component (A), (B), and (C) is desirable, and it is 2 - 30% more preferably.

[0013] As a component of others which are used for the cleaning agent constituent of this invention, thickeners, such as oils, such as the Nonion nature surface active agents, such as saccharides, such as polyhydric alcohol, such as a glycerol, diglycerol, 1, 3-butylene glycol, and a polyethylene glycol, a sorbitol, xylitol, and maltitol, a palm-oil-fatty-acid alkanol amide, sucrose fatty acid ester, and alkyl glucoside, olive oil, jojoba oil, squalane, and 2-ethylhexanoic acid cetyl, and hydroxyethyl cellulose, a natural extract, an anti-inflammatory agent, perfume, antiseptics, etc. can be mentioned.

[0014] Moreover, the pharmaceutical form of the cleaning agent constituent of this invention is not limited to this, although the shape of the shape of powder, a liquid, and a cream and a solid etc. is mentioned.

[0015]

[Example] Hereafter, this invention is described based on an example and the example of a comparison. In addition, the loadings in an example and the example of a comparison are expressed with weight % of pure part conversion. Moreover, the detergency test and selection washing sex test which were used for

this invention, and a safety test were carried out as follows.

[0016] The elution nature of the squalene from the epidermis of the example of a comparison and an example and cholesterol was evaluated by making eight [detergency-test] man and woman into a test subject. The rate of sebum elution at the time of the cleaning agent processing to the amount of sebum extracted with the acetone ether solvent at the time of tap water processing was computed, and the following criteria estimated the sum total of the rate of elution of squalene and cholesterol as a detergency. When the sum total of the rate of elution of squalene and cholesterol was 30% or more, there is sufficient detergency and it was estimated that it was possible to flush excessive sebum. On the other hand, less than 20% estimated that it could not fully flush sebum.

[0017] Sum total [of the rate of squalene elution, and the rate of cholesterol elution] O: More than 30% **: Less than [30% 20% or more] x: Less than 20% [0018] Elution nature of the squalene from the epidermis of the example of a comparison and an example and cholesterol was examined by making eight [selection washing sex-test] man and woman into a test subject. The rate of elution of the squalene and cholesterol at the time of the cleaning agent processing to the amount of sebum extracted with the acetone ether solvent at the time of tap water processing was computed, and the following criteria estimated selection detergency from the numeric value of the rate of squalene elution / rate of cholesterol elution (it omits Following R). A difference is in the rate of elution of squalene and cholesterol, and $R \geq 5$ estimated that there was selection detergency. On the other hand, sufficient difference for the rate of elution of squalene and cholesterol was not accepted, but $R < 2$ estimated that it did not have selection detergency.

[0019]

O : $R \geq 5$ **: Two $\leq R < 5$ x: $R < 2$ [0020] The charge of washing of the example of this invention and the example of a comparison was made to use continuously one week (a morning and evening) of his dice by having made 30 [safety test] man and woman into the test subject, and surface deterioration was evaluated. The number which appealed against surface deterioration showed the test result.

[0021] the charge of washing given in the examples 1-9 of a comparison and the [examples 1-22] table 1, and Table 2 -- respectively -- a law -- it prepares according to a method, said many trials are carried out, and a test result is indicated to Table 1 and 2.

[0022]

[Table 1]

原料名	比較例1	比較例2	比較例3	比較例4	比較例5	比較例6	比較例7	比較例8	比較例9
N-アシルアミノグリセリン									
N-アシルグルタミン酸ナトリウム	10	30					0.5	5	
N-アシルグルタミン酸ナトリウム			10	30			0.5		7.5
アクリル酸アミド					10	30		5	7.5
グリセリン	5	5	5	5	5	5	5	5	5
精製水	残量	残量	残量	残量	残量	残量	残量	残量	残量
洗浄力	○	○	○	○	○	○	△	○	○
選択洗浄性	x	x	x	x	x	x	x	x	x
安全性	0	2	0	3	0	2	0	0	0

[0023]

[Table 2]

原料名	実施例1	実施例2	実施例3	実施例4	実施例5	実施例6	実施例7	実施例8	実施例9	実施例10	実施例11	実施例12
M-70L72-20/139/47シ	0.3	1.5	10	30	1	1	1	1	1	1	10	10
M-70L72-20/139/47シ					1				0.5	0.5	10	
M-70L72-20/139/47シ						1			0.5	0.5		10
70L72-20/139/47シ							1		0.5	0.5		
70L72-20/139/47シ	5	5	5	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗浄力	△	○	○	○	○	○	○	○	○	○	○	○
通気透水性	○	○	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○	○	○

原料名	実施例13	実施例14	実施例15	実施例16	実施例17	実施例18	実施例19	実施例20	実施例21	実施例22
M-70L72-20/139/47シ	10	10	10	10	15	15	15	15	15	15
M-70L72-20/139/47シ		5	5		15			7.5	7.5	15
M-70L72-20/139/47シ		5		5		15		7.5	7.5	7.5
70L72-20/139/47シ	10		5	5			15		7.5	7.5
70L72-20/139/47シ	5	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗浄力	○	○	○	○	○	○	○	○	○	○
通気透水性	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○

[0024] In the cleaning agent constituent which is shown in the examples 1-6 of a comparison and which carried out surfactant independent combination, although the detergency was shown, selection detergency was not accepted but surface deterioration was accepted especially about the examples 2, 4, and 6 of a comparison. Furthermore, selection detergency was not accepted in the cleaning agent constituent which is shown in the examples 7-9 of a comparison and which combined surfactants other than N-acyl alanine salt. On the other hand, in examples 1-4, even if it blended N-acyl alanine salt independently, a detergency and selection detergency were accepted and surface deterioration was not accepted. Furthermore, a detergency and selection detergency were similarly accepted with the cleaning agent constituent combined with the anionic surfactant of N-acyl alanine salt and others and/or amphoteric surface active agent which are shown in examples 5-22, and surface deterioration was not accepted.

[0025] From the above result, it was shown in the cleaning agent constituent which blends N-acyl alanine salt that the header and the cleaning agent constituent which blended the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others further have secured the safety accompanying a selection washing function and it for there being a selection washing function similarly.

[0026]

[Effect of the Invention] Supply of the product which secured the safety accompanying a header, the selection washing function which comes to blend the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others further, and it for a selection washing function being in the cleaning agent constituent which blends N-acyl alanine salt of this invention was attained.

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EXAMPLE

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O : $R \geq 5$ **: Two $\leq R < 5$ x: $R < 2$ [0020] The charge of washing of the example of this invention and the example of a comparison was made to use continuously one week (a morning and evening) of bis dice by having made 30 [safety test] man and woman into the test subject, and surface deterioration was evaluated. The number which appealed against surface deterioration showed the test result.

[0021] the charge of washing given in the examples 1-9 of a comparison and the [examples 1-22] table 1, and Table 2 -- respectively -- a law -- it prepares according to a method, said many trials are carried out, and a test result is indicated to Table 1 and 2.

[0022]

[Table 1]

原料名	比較例1	比較例2	比較例3	比較例4	比較例5	比較例6	比較例7	比較例8	比較例9
N-アシルアミントリエタノールアミン									
N-アシルグルタミン酸トリウム	10	30					0.5	5	
N-アシルグルタミン酸トリウム			10	30			0.5		7.5
ナリル酸アミントリエタノールアミン					10	30		5	7.5
グリセリン	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗浄力	○	○	○	○	○	○	△	○	○
選択洗浄性	x	x	x	x	x	x	x	x	x
安全性	0	2	0	3	0	2	0	0	0
結果									

[0023]
[Table 2]

原料名	実施例1	実施例2	実施例3	実施例4	実施例5	実施例6	実施例7	実施例8	実施例9	実施例10	実施例11	実施例12
N-アミノカプロン-67シ	0.3	1.5	10	30	1	1	1	1	1	1	10	10
N-アミノカプロン-67シ					1			0.5	0.5		10	
N-アミノカプロン-67シ						1		0.5		0.5		10
アミノ酸75170c-67シ							1		0.5			
グリセリン	5	5	5	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗浄力	△	○	○	○	○	○	○	○	○	○	○	○
選択洗浄性	○	○	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○	○	○

原料名	実施例13	実施例14	実施例15	実施例16	実施例17	実施例18	実施例19	実施例20	実施例21	実施例22
N-アミノカプロン-67シ	10	10	10	10	15	15	15	15	15	15
N-アミノカプロン-67シ		5	5		15			7.5	7.5	
N-アミノカプロン-67シ		5		5		15		7.5		7.5
アミノ酸75170c-67シ	10		5	5			15		7.5	7.5
グリセリン	5	5	5	5	5	5	5	5	5	5
精製水	残余	残余	残余	残余	残余	残余	残余	残余	残余	残余
洗浄力	○	○	○	○	○	○	○	○	○	○
選択洗浄性	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○

[0024] In the cleaning agent constituent which is shown in the examples 1-6 of a comparison and which carried out surfactant independent combination, although the detergency was shown, selection detergency was not accepted but surface deterioration was accepted especially about the examples 2, 4, and 6 of a comparison. Furthermore, selection detergency was not accepted in the cleaning agent constituent which is shown in the examples 7-9 of a comparison and which combined surfactants other than N-acyl alanine salt. On the other hand, in examples 1-4, even if it blended N-acyl alanine salt independently, a detergency and selection detergency were accepted and surface deterioration was not accepted. Furthermore, a detergency and selection detergency were similarly accepted with the cleaning agent constituent combined with the anionic surfactant of N-acyl alanine salt and others and/or amphoteric surface active agent which are shown in examples 5-22, and surface deterioration was not accepted.

[0025] From the above result, it was shown in the cleaning agent constituent which blends N-acyl alanine salt that the header and the cleaning agent constituent which blended the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others further have secured the safety accompanying a selection washing function and it for there being a selection washing function similarly.

[Translation done.]

*** NOTICES ***

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

EFFECT OF THE INVENTION

[Effect of the Invention] Supply of the product which secured the safety accompanying a header, the selection washing function which comes to blend the anionic surfactant and/or amphoteric surface active agent of N-acyl alanine salt and N-acyl alanine salt, and others further, and it for a selection washing function being in the cleaning agent constituent which blends N-acyl alanine salt of this invention was attained.

[Translation done.]

(19) 日本特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開2000-265191

(P2000-265191A)

(43) 公開日 平成12年9月26日 (2000.9.26)

(51) Int. Cl.	識別記号	F I	チート (参考)
C 1 1 D	1/10	C 1 1 D	1/10 3 B 2 0 1
B 0 8 B	3/08	B 0 8 B	3/08 Z 4 H 0 0 3
C 1 1 D	1/94	C 1 1 D	1/94

審査請求 有 請求項の数 3 O L (全 6 頁)

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(54) 【発明の名称】 選択洗浄機能を有する洗浄剤組成物

(57) 【要約】

【課題】 選択洗浄機能、及びそれに伴う高い安全性を確保した洗浄剤組成物を提供する。

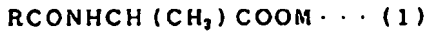
【解決手段】 一般式 (1) で示される N-アシルアラニン塩を配合する選択洗浄機能を有する洗浄剤組成物。

$RCONHCH(CH_3)COOM \cdots (1)$

但し、本式の R は炭素数 8 から 22 の飽和または不飽和の炭化水素基を表す。M はアルカリ金属塩、有機アミン塩を表す。また、上記 N-アシルアラニン塩とその他のアニオン性界面活性剤及び／又は両性界面活性剤を併用する場合もある。

【特許請求の範囲】

【請求項1】 一般式(1)で示されるN-アシルアラニン塩を配合することを特徴とする選択洗浄機能を有する洗浄剤組成物。



但し、本式のRは炭素数8から22の飽和または不飽和の炭化水素基を表す。Mはアルカリ金属塩、有機アミン塩を表す。

【請求項2】 (A) N-アシルアラニン塩と(B)その他のアニオン性界面活性剤又は(C)両性界面活性剤とを組み合わせることを特徴とする、選択洗浄機能を有する洗浄剤組成物。

【請求項3】 (A) N-アシルアラニン塩と(B)その他のアニオン性界面活性剤、及び(C)両性界面活性剤とを組み合わせることを特徴とする選択洗浄機能を有する洗浄剤組成物。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】この発明は、N-アシルアラニン塩及びN-アシルアラニン塩とその他のアニオン性界面活性剤及び/又は両性界面活性剤とを配合してなる高機能性かつ高安全性を有する洗浄剤組成物に関する。

【0002】

【従来の技術】従来、N-アシルアラニン塩は洗浄性に優れ、安全性が高い界面活性剤として知られている(例えば、「機能性化粧品」(シー・エム・シー社刊、第275頁、1990年発行、及び特開平5-156281号公報))。

【0003】

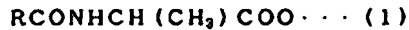
【発明が解決しようとする課題】しかし、その選択洗浄機能については知られていなかった。ここで選択洗浄機能とは皮膚上の汚れ、不要な角質タンパク質及び皮脂腺由来脂質を良く洗い落とし、かつ皮膚のバリア機能にとって必要なコレステロール、セラミドなどの表皮細胞由来脂質を取り除きにくい性質を示す。また、従来の界面活性剤では皮膚のバリア機能にとって必要なコレステロール、セラミドを始めとする皮脂腺由来脂質等を過剰に出し、肌荒れや皮膚刺激を引き起こすことがあり、安全性上の問題を起こす例があった。

【0004】そこでこの発明の目的は、N-アシルアラニン塩の選択洗浄機能及び、それに伴う高い安全性を確保した洗浄剤組成物を提供することにある。

【0005】

【課題を解決するための手段】この発明者は、上記目的を達成すべく鋭意研究を重ねた結果、N-アシルアラニン塩を洗浄剤組成物に使用することにより、または、N-アシルアラニン塩とその他のアニオン性界面活性剤及び/又は両性界面活性剤を洗浄剤組成物に併用することにより、選択洗浄機能およびそれに伴う安全性が達成されることを見出し、この発明を完成させた。

【0006】即ち、請求項1項の発明は、式(1)で示される成分(A) N-アシルアラニン塩を配合する、選択洗浄機能を有する洗浄剤組成物とした。



但し、本式のRは炭素数8から22の飽和または不飽和の炭化水素基を表す。Mはアルカリ金属塩、有機アミン塩を表す。また、請求項2項の発明は、上記成分(A) N-アシルアラニン塩と成分(B) その他のアニオン性界面活性剤又は成分(C) 両性界面活性剤とを組み合わせることを特徴とする選択洗浄機能を有する洗浄剤組成物とした。また、請求項3項の発明は、上記成分(A) N-アシルアラニン塩と成分(B) その他のアニオン性界面活性剤、及び成分(C) 両性界面活性剤とを組み合わせることを特徴とする選択洗浄機能を有する洗浄剤組成物とした。

【0007】

【発明の実施の形態例】以下、この発明を詳細に説明する。この発明の洗浄剤組成物中に使用される上記式

(1)に示される成分(A)のN-アシルアラニン塩において、長鎖アシル基は炭素原子数8~22の飽和または不飽和脂肪酸より誘導されるアシル基を表し、例えば、ラウリン酸、ミリスチン酸、パルミチン酸、ステアリン酸、オレイン酸等の単一組成の脂肪酸によるアシル基が挙げられ、これ他にヤシ油脂肪酸、パーム油脂肪酸、牛脂脂肪酸等の天然より得られる混合脂肪酸あるいは合成により得られる脂肪酸によるアシル基であっても良い。具体例として、N-ラウロイルアラニン、N-ミリスチロイルアラニン、N-パルミトイルアラニン、N-ステアロイルアラニン、N-ココイルアラニン、N-オレロイルアラニン等が挙げられる。式(1)でMとして表す塩は、ナトリウム塩、カリウム塩等のアルカリ金属塩、モノエタノールアミン塩、ジエタノールアミン塩、トリエタノールアミン塩、L-リジン塩、L-アルギニン塩等の有機アミン塩が挙げられる。これら塩基成分は二種以上を組み合わせても良い。

【0008】この発明の洗浄剤組成物中に使用される成分(B)のその他のアニオン性界面活性剤において、N-アシルグルタミン酸塩、N-アシルメチルタウリン塩、N-アシルイセチオン酸塩、N-アシルグリシン塩、モノアルキルリン酸塩、エーテルカルボン酸塩、アルキルスルホン酸塩、スルホコハク酸塩、高級脂肪酸塩等が挙げられる。本成分(B)の塩は、ナトリウム塩、カリウム塩等のアルカリ金属塩、モノエタノールアミン塩、ジエタノールアミン塩、トリエタノールアミン塩、L-リジン塩、L-アルギニン塩等の有機アミン塩が挙げられる。これら塩基成分は二種以上を組み合わせても良い。

【0009】成分(C)の両性界面活性剤においては、カルボベタイン型、スルホベタイン型、アミドベタイン型、イミダゾリン型等が挙げられる。

【0010】成分(A)については単独で使用するこ

ができる。成分(B)や成分(C)については成分(A)を併用すれば、2種以上併用することも可能である。

【0011】更に洗淨剤組成物に使用される成分(A)と成分(B)及び/又は成分(C)の合計の配合割合は、純分換算の重量比で1:60~1:0が好適であり、より好ましくは1:1~1:0である。成分(A)に対し、成分(B)及び/又は成分(C)の合計の比率が1:60~1:0の範囲外である場合、成分(B)及び/又は成分(C)の洗淨性が高くなり、選択洗淨機能と高い安全性が達成できない。

【0012】この発明の洗淨剤組成物に使用される成分(A)のみの配合における純分換算量は0.3以上が好ましく、より好ましくは1.5~30%である。また、成分(A)、(B)、(C)の純分換算の合計量は2%以上が好ましく、より好ましくは2~30%である。

【0013】この発明の洗淨剤組成物に使用されるその他の成分として、グリセリン、ジグリセリン、1,3-ブチレングリコール、ポリエチレングリコール等の多価アルコール、ソルビトール、キシリトール、マルチトール等の糖類、ヤシ油脂肪酸アルカノールアミド、ショ糖脂肪酸エステル、アルキルグルコシド等のノニオン性界面活性剤、オリブ油、ホホバ油、スクワラン、2-エチルヘキサン酸セチルなどの油剤、ヒドロキシエチルセルロース等の増粘剤、天然抽出物、抗炎症剤、香料、防腐剤などを挙げることができる。

【0014】またこの発明の洗淨剤組成物の剤型は、粉末状、液状、クリーム状、固形状等が挙げられるが、これに限定するものではない。

【0015】

【実施例】以下、実施例及び比較例に基づいてこの発明を記述する。尚、実施例及び比較例における配合量は純分換算の重量%で表す。また、この発明に使用した、洗淨力試験、選択洗淨性試験、安全性試験は以下の通りに実施した。

【0016】【洗淨力試験】男女8名を被験者として比較例、実施例の表皮からのスクワレン及びコレステロールの溶出性を評価した。水道水処理時のアセトン・エーテル溶媒により抽出された皮脂量に対する洗淨剤処理時の皮脂溶出率を算出し、スクワレンとコレステロールの溶出率の合計を以下の基準で洗淨力として評価した。スクワレンとコレステロールの溶出率の合計が30%以上の場合、十分な洗淨力があり、余分な皮脂を洗い流すことが可能であると評価した。一方、20%未満では皮脂は十分に洗い流すことができないと評価した。

【0017】スクワレン溶出率とコレステロール溶出率の合計

○: 30%以上

△: 20%以上30%未満

×: 20%未満

【0018】【選択洗淨性試験】男女8名を被験者として比較例、実施例の表皮からのスクワレン及びコレステロールの溶出性の検討を行なった。水道水処理時のアセトン・エーテル溶媒により抽出された皮脂量に対する洗淨剤処理時のスクワレンとコレステロールの溶出率を算出し、スクワレン溶出率/コレステロール溶出率(以下Rと略す)の数値から以下の基準で選択洗淨性を評価した。R \geq 5ではスクワレンとコレステロールの溶出率に差があり、選択洗淨性があると評価した。一方、R<2ではスクワレンとコレステロールの溶出率に十分な差が認められず、選択洗淨性を持たないと評価した。

【0019】

○: R \geq 5

△: 2 \leq R<5

×: R<2

【0020】【安全性試験】男女30名を被験者としてこの発明の実施例及び比較例の洗淨料を1日2回(朝夕)1週間連用させて、肌荒れを評価した。試験結果は肌荒れを訴えた人数で示した。

【0021】【比較例1~9及び実施例1~22】表1、表2に記載の洗淨料をそれぞれ定法に従って調製し、前記諸試験を実施し、試験結果を表1、及び表2に記載する。

【0022】

【表1】

:(4) 000-265191 (P2000-265191A)

[0023]

[表2]

品名	比較例1	比較例2	比較例3	比較例4	比較例5	比較例6	比較例7	比較例8	比較例9
メソルブエチルエーテル									
メソルブエチルエーテル	10	30				0.5		5	
メソルブエチルエーテル			10	30		0.5			7.5
メソルブエチルエーテル					10			5	7.5
メソルブエチルエーテル	5	5	5	5	5	5	5	5	5
精製水	現余	現余	現余	現余	現余	現余	現余	現余	現余
洗淨力	○	○	○	○	○	○	△	○	○
通気性	×	×	×	×	×	×	×	×	×
安全性	0	2	0	3	0	2	0	0	0

原料名	実施例1	実施例2	実施例3	実施例4	実施例5	実施例6	実施例7	実施例8	実施例9	実施例10	実施例11	実施例12
N-アシルアラニン塩-NPシ	0.3	1.5	10	30	1	1	1	1	1	1	10	10
N-アシルアラニン塩-NPシ					1				0.5		10	
N-アシルアラニン塩-NPシ						1				0.5		10
アクリル酸-NPシ	5	5	5	5	5	5	5	5	5	5	5	5
水	残	残	残	残	残	残	残	残	残	残	残	残
洗淨力	△	○	○	○	○	○	○	○	○	○	○	○
選択洗淨性	○	○	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○	○	○

【0024】比較例1～6に示す、界面活性剤単独配合した洗淨剤組成物においては、洗淨力は示されるが、選択洗淨性は認められず、特に、比較例2、4、6については、肌荒れが認められた。さらに、比較例7～9に示

原料名	実施例13	実施例14	実施例15	実施例16	実施例17	実施例18	実施例19	実施例20	実施例21	実施例22
N-アシルアラニン塩-NPシ	10	10	10	10	15	15	15	15	15	15
N-アシルアラニン塩-NPシ		5	5		15			7.5	7.5	7.5
N-アシルアラニン塩-NPシ		5	5	5	15	15		7.5	7.5	7.5
アクリル酸-NPシ	10		5	5			15		7.5	7.5
水	5	5	5	5	5	5	5	5	5	5
洗淨力	○	○	○	○	○	○	○	○	○	○
選択洗淨性	○	○	○	○	○	○	○	○	○	○
安全性	○	○	○	○	○	○	○	○	○	○

す、N-アシルアラニン塩以外の界面活性剤を組み合わせた洗淨剤組成物においても選択洗淨性が認められなかった。一方、実施例1～4においては、N-アシルアラニン塩を単独で配合しても、洗淨力、及び選択洗淨性が

認められ、肌荒れは認められなかった。さらに、実施例5～22に示す、N-アシルアラニン塩とその他のアニオン性界面活性剤及び／又は両性界面活性剤と組み合わせた洗浄剤組成物でも同様に洗浄力及び選択洗浄性が認められ、肌荒れは認められなかった。

【0025】以上の結果より、N-アシルアラニン塩を配合する洗浄剤組成物に選択洗浄機能があることを見出し、更にN-アシルアラニン塩及びN-アシルアラニン塩とその他のアニオン性界面活性剤及び／又は両性界面

活性剤を配合した洗浄剤組成物も同様に、選択洗浄機能及びそれに伴う安全性を確保していることが示された。

【0026】

【発明の効果】この発明はN-アシルアラニン塩を配合する洗浄剤組成物に選択洗浄機能があることを見出し、更にN-アシルアラニン塩及びN-アシルアラニン塩とその他のアニオン性界面活性剤及び／又は両性界面活性剤を配合してなる、選択洗浄機能及びそれに伴う安全性を確保した製品を供給可能となった。

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Fターム(参考) 3B201 AA46 BB92 BB94 CC21
4H003 AB09 AB10 AB23 AB46 AD04
BA01 BA12 BA15 DA02 EB05
ED02 FA02